

# ABSTRACT

A diagnostic microbiological testing system and method for microorganism identification (ID) and antimicrobial susceptibility determinations (AST). The system includes multiple-well test panels capable of performing ID and AST testing on the same test panel. Each test panel is inoculated with reagents, broth-suspended organisms, and placed into the instrument system. The instrument system includes a rotating carousel for incubation and indexing, multiple light sources each emitting different wavelength light, precision calorimetric and fluorometric detection, barcode test panel tracking and a control processor for making determinations based on measured test data. One light source includes a plurality of LEDs arranged in a linear array. Each of the LEDs' junction currents are controllable to produce a predetermined illumination profile.

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